

# Weightlifting slashes lymphedema risk after breast cancer treatment

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Weightlifting may play a key role in the prevention of the painful limb-swelling condition lymphedema following breast cancer treatment, according to new research from the University of Pennsylvania School of Medicine. Combined with the team's previous findings that the exercise limits a worsening of symptoms among women who already have lymphedema, the new data cements the reversal of long-running advice that breast cancer survivors should avoid lifting anything heavier than five pounds after they finish treatment. The research results will be presented today (Dec. 8, 2010) at the San Antonio Breast Cancer Symposium and published online concurrently in the *Journal of the American Medical Association*.

"Lymphedema is a dreaded, common side effect of [breast cancer](#) treatment. Women worry that they will recover from their cancer only to be plagued by this condition that often limits their ability to work, maintain their homes, and care for their children or grandchildren," says lead author Kathryn Schmitz, PhD, MPH, an associate professor of Epidemiology and Biostatistics and a member of Penn's Abramson Cancer Center. "Our study shows that they now have a weapon to reduce their risk of developing lymphedema, and at the same time, reap the many other health rewards of weightlifting that they have missed out on due to decades of advice to avoid lifting so much as a grocery bag or their purse."

The researchers enrolled 154 breast cancer survivors without lymphedema who had breast cancer within the previous five years.

Overall, they found that a slowly progressive weightlifting regimen cut risk of developing the condition during the yearlong study by 35 percent: Eleven percent of women in the weightlifting treatment group developed lymphedema, compared to 17 percent of those in the control group, who did not change their normal physical activity level. Among women who had five or more lymph nodes removed during surgery, the impact of the weightlifting intervention was even greater – a nearly 70 percent risk reduction, with 22 percent of control group participants developing lymphedema, compared to 7 percent in the treatment group.

More than 2.4 million breast cancer survivors live in the United States, a population that is expected to continue growing as physicians hone new, personalized treatments for the most aggressive forms of the disease. These women report that along with fear of recurrence and concerns about the cosmetic changes associated with their treatment, the threat of lymphedema looms large as they complete treatment and transition to their new life as cancer survivors. The condition is most common following surgery to remove multiple lymph nodes near the cancerous breast; previous studies have shown that as many as 47 percent of these women later develop lymphedema, which leads to costly and often futile treatment.

The study treatment group participants were provided with a one-year membership to a fitness center – typically a YMCA – near their homes throughout the Philadelphia area. For the first 13 weeks of the trial, they attended twice-weekly, 90-minute, small-group classes led by certified fitness professionals who taught them safe techniques for both upper- and lower-body weightlifting using both free weights and machines. Weight was increased slowly for each exercise if patients had no change in arm symptoms. For the remainder of the yearlong trial, the participants exercised on their own and were monitored on a monthly basis for changes in arm circumference. They also reported any symptom changes – pain, tingling, numbness, etc. -- each week.

The results are a part of the two-pronged Physical Activity and Lymphedema (PAL) Trial, which sought to examine the role of weightlifting both for breast cancer survivors who already had the condition and those who were at risk. In August 2009, Schmitz's team published separate findings showing that among the women with lymphedema, those who took part in the slowly progressive weightlifting regimen experienced fewer flare-ups of their condition, and a reduction in symptoms compared to the women who did not lift weights. The study was conducted from 2005 to 2008.

Schmitz cautions that women who have lymphedema or are at risk of the condition should speak with their doctors and seek guidance from a certified fitness professional to learn safe weightlifting techniques, many of which can even be practiced at home with proper equipment. Women with lymphedema should also wear a well-fitting compression garment during all exercise sessions.

The new study results, in combination with the exercise guidance for cancer survivors recently released by the American College of Sports Medicine, form a solid platform for patients to issue a call to action, Schmitz says.

"Gone are the days when women should accept that it is good enough to merely be alive after breast cancer," she says. "We live in an era when breast cancer is increasingly recognized at an early stage and treated successfully. The 2.4 million breast [cancer survivors](#) in the United States deserve to be referred to physical therapy for evaluation of the myriad of arm and shoulder issues they face, which include lymphedema. The remarkable, well-connected sisterhood of survivors should collectively rise up and insist that breast cancer rehabilitation programming become standard of care at all cancer centers across the United States, as it already is in many parts of Europe."

**More information:** *JAMA*. 2010;doi:10.1001/jama.2010.1837.

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